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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/954,508

09/14/2001

Ivan A. Todorov

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EXAMINER

ARTHUR JEANGLAUDE, GERTRUDE

ART UNIT

PAPER NUMBER

2144

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/954,508

Applicant(s)

TODOROV ET AL.

Examiner

Gertrude Arthur-Jeanglaude

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | ~ Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>22102</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-50 are presented for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-8 , 22, 30-31, are rejected under 35 U.S.C. 102(e) as being anticipated by Tang et al. (U.S. 2001/0025321).

As to claim 1, Tang et al. disclose a process data access server (107) as shown in Fig. 1 enabling client applications (105) incorporating potentially multiple differing data exchange protocols to access process data stored at potentially many different locations in a process control system, the process data access server comprising: a device protocol interface (See paragraph 0015) facilitating accessing process data storage locations within the process control system; a set of client data exchange protocol modules (106, 108) enabling client applications to request access to process data storage locations via the process data access server according to particular client data exchange protocols supported by the set of client data exchange protocol modules; (See paragraph 0014, lines 13-23) and a data access server engine (107) for

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executing process data access requests, received by the process data access server via the set of client data exchange protocol modules, by accessing, via the device protocol interface, data storage locations corresponding to the process data access requests, and wherein the data access server engine includes a client application data exchange protocol abstraction layer comprising a set of operations callable by ones of the set of client data exchange protocol modules in response to receipt by the set of client data exchange protocol modules of process data access requests (See paragraph 0013-0015).

As to claims 2-5, 30, Tang et al. disclose the process data access server as discussed wherein one would consider the set of client data exchange protocol modules to comprise plugins either dynamic or static because a link is used to multiplex different protocols for data requests (See paragraph 0019, 0024).

As to claims 6, 31, Tang et al. disclose the set of client data exchange protocol modules handle data access requests from client applications in accordance with particular client data exchange protocols (See paragraph 0014, lines 7-15).

As to claim 7, it is also considered that the communication system of Tang et al. includes a loading mechanism for the access node or router for determining a presence of at least one of the set of client data exchange protocol modules upon a machine for executing the process data access server, and loading the at least one client data exchange protocol module during a startup process that integrates the at least one client data exchange module with the data access server engine (104) as shown in Fig.1; (also see paragraph 0014).

As to claim 8, Tang et al. disclose distinct data exchange protocols which is considered as: the set of operations of the data access server engine includes at least one operation callable by at least two distinct ones of the set of client data exchange protocol modules that incorporate distinct data exchange protocols (See paragraph 0014).

As to claim 22, Tang et al. disclose a method for providing, by a data access server, access to process data in a distributed process control environment in accordance with a client application data exchange protocol supported by one of a set of client application data exchange protocol modules installed on the data access server, and wherein the set of client application data exchange protocol modules invoke a set of data access operations executable by a data access server engine (107) Fig.1 of the data access server according to a module-engine interface definition, the method comprising the steps of: receiving, by a first client application data exchange protocol module of the data access server, a first client application data access request according to a first data exchange protocol; first generating, by the first client application data exchange protocol module (See paragraph 0014-0015), a first data access operation call for the data access server engine conforming to the module-engine interface definition, wherein the first data access operation call corresponds to the first client application data access request; and executing, by the data access server engine, the first data access operation call. It is considered that the flow chart as shown in Fig.7 is a first data access operation call.

Claim 44 is rejected under 35 U.S.C. 102(e) as being anticipated by Dean (U.S. Patent No. 5,991,820).

As to claim 44, Dean discloses a method for activating a data access server (250) as shown in Fig.2 through a start-up process that builds the data access server from previously installed program files (See col. 8, lines 53-67) including at least an executable file incorporating a data access server engine and a separate and distinct file containing one or more of a set of client application data exchange protocol modules installed on the data access server, and wherein the set of client application data exchange protocol modules invoke a set of data access operations executable by the data access server engine of the data access server according to a module-engine interface definition, the method comprising the steps of:

starting up an executable corresponding to the data access server and including the data access server engine; loading the set of client application data exchange protocol modules thereby creating program links between at least one of the protocol modules and the data access server executable; and instantiating a data access server object corresponding to a connection between the data access server and a requesting client application (See col. 7, lines 30-50; col. 8, lines 53-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-21, 23-29, 32-43, are rejected under 35 U.S.C. 103(a) as being unpatentable over Tang et al. (U.S. Patent No. 2001/0025321) in view of Dean (U.S. Patent No. 5,991,820).

As to claim 9, Tang et al. disclose the process data access server as discussed wherein an operational data access server including the device protocol interface, the set of client data exchange protocol modules, and the data access server is created by a start-up process that builds the operational data access server; but fail to specifically disclose the data access server from previously installed program files, and wherein the program files of the client data exchange protocol modules and the data access server are independently designatable with regard to one another. In an analogous art, Dean discloses operational data access server built from program files (See abstract; col. 5, line 29-col.6; col. 8, lines 53-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Tang et al. with that of Dean by installing program files in order to independently operate the processes.

As to claims 10-11, 32-34, Tang et al. disclose all but fail to specifically disclose asynchronous data read operation for providing data from an identified data source in response to a client application data request nor does it disclose the set of interface operations executable by the data access server engine includes a synchronous read operation that, in accordance with a timer duration expiration event, updates identified process data values via the device protocol interface. In an analogous art, Dean

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discloses a read operation and a timer duration expiration event in response to a client application data request (See col. 2, lines 55-67; col. 7, lines 30-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Tang et al. with that of Dean by having an asynchronous data read operation for providing data from an identified data source in response to a client application data request in order to process exchange data and synchronize execution through the interprocess communication mechanisms.

As to claim 12, Tang et al. disclose all but fails to specifically disclose the synchronous read operation discards an updated process data value for a data item that is determined to be unchanged from a current stored value for the data item, thereby avoiding transmissions of unchanged data values between the process data access server and requesting client applications. In an analogous art, Dean discloses a time critical applications program which include blocking operations to utilize the CPU in a timely fashion without being blocked by the blocking operations (considered as avoiding transmissions of unchanged data values...) (See col. 2, lines 55-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Tang et al. with that of Dean by having synchronous read operation to thereby avoid transmissions of unchanged data values in order to process exchange data and synchronize execution through the interprocess communication mechanisms.

As to claims 13-21, 35-43, Tang et al. disclose all but fail to specifically disclose a group creation operation that creates a first logical group containing a first set of data items or an error code generator. In an analogous art, Dean discloses a multiple

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processes using message passing and shared memory wherein it discloses a first process considered as (first logical group) containing a first set of data items and further discloses write operation; (See col. 7, lines 8-col. 8, lines 1-38). However it would also have been obvious to have an error code generator in the message queue in the operating system. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Tang et al. with that of Dean by having a group creation operation that creates a first logical group containing a first set of data items and also having error code generator in order to process exchange data and synchronize execution through the interprocess communication mechanisms.

As to claims 23-29, Tang et al. disclose all but fail to specifically disclose second generating and third generating a response to the first data access operation call as a response to the first client application data access request. In an analogous art, Dean discloses a process exchange data wherein to or more processes operate (considered as second and third generating) (See abstract; col. 7, lines 2-44) and also show a subscription query as shown in Fig.6. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Tang et al. with that of Dean by having a second generating and third generating a response to the first client application data access request in order to process exchange data and synchronize execution through the interprocess communication mechanisms.

Claims 45-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dean (U.S. Patent No. 5,991,820). in view of Tang et al. (U.S. Patent No. 2001/0025321).

As to claims 45-48, Dean discloses all but does not specifically disclose the plugins in the exchange protocols. In an analogous art, Tang et al. disclose the process data access server as discussed wherein one would consider the set of client data exchange protocol modules to comprise plugins either dynamic or static because a link is used to multiplex different protocols for data requests (See paragraph 0019, 0024). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dean with that of Tang et al. by having plugins in the exchange protocol modules in order to better route the data packet.

As to claim 49, Dean discloses all but does not specifically disclose the plugins in the exchange protocols. In an analogous art, Tang et al. disclose the set of client data exchange protocol modules handle data access requests from client applications in accordance with particular client data exchange protocols (See paragraph 0014, lines 7-15). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Dean with that of Tang et al. by having plugins in the exchange protocol modules in order to better route the data packet.

As to claim 50, Dean discloses all but does not specifically disclose the plugins in the exchange protocols or distinct ones of set of client data exchange protocol modules. In an analogous art, Tang et al. disclose distinct data exchange protocols which is considered as: the set of operations of the data access server engine includes at least one operation callable by at least two distinct ones of the set of client data exchange protocol modules that incorporate distinct data exchange protocols (See paragraph 0014). It would have been obvious to one of ordinary skill in the art at the time of the

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invention to modify the system of Dean with that of Tang et al. by having plugins and at least two distinct ones of the set of client data exchange protocol modules that incorporate distinct data exchange protocols in the exchange protocol modules in order to better route the data packet.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hamanaka et al. (U.S. Patent No. 5,386,566) disclose a interprocessor communication method for transmitting data and processor dependent information predetermined for a receiving process of another processor.

Antonov (U.S. Patent No. 5,884,046) discloses an apparatus and method for sharing data and routing messages between a plurality of workstations in a local area network.

Hillis (U.S. Patent No. 5,978,570) discloses a memory system providing page mode memory access arrangement.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gertrude Arthur-Jeanglaude whose telephone number is (571) 272-6954. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 6:00 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski can be reached on (571) 272-3925. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GAJ
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January 5, 2005

Gertrude A. Jeanglaude
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PRIMARY EXAMINER